

83857); 3, (NMC, 83846 and 83854); 4, (NMC, 83845 and 83848); 5, (NMC, 83844 and 83849); 6, (NMC, 83843). Mt. Benson, upper slopes, alt. 3200 ft., *John Macoun* 76800, (CRB, NMC). Nanaimo and vicinity, *John Macoun* 76802, (CRB, NMC); in thickets, *John Macoun* 80958, (NMC); *John Macoun* 76804, (NMC); *W. Spreadborough* 15, (NMC 83850). Strathcona Park, Drumm Lake, *J. M. Macoun* 83881, (NMC). Victoria and vicinity, *John Macoun* 76770, (CRB, NMC); in thickets, Burnside Road, *John Macoun* 76766, (NMC); Beaver Lake, *John Macoun* 76801, distributed as *S. geyseriana* (CRB, NMC, branchlets very short, crowded); *A. J. Pinio* 68682, (NMC); *M. O. Malte* 122135, (NMC, UC). Georgian Bay Islands. Mayne Island, *J. M. Macoun* 90155, (NMC). Salt Spring Island, wet places, *John Macoun* 24470, (NMC, UC). New Westminster District. Ocean Park, 3 miles north of 49th parallel, gravelly hillsides on logged and burned land, *J. K. Henry* 6, (CRB, 3 sheets; NMC, 2 sheets); *Henry* 7, (CRB, 3 sheets; NMC, 2 sheets); *Henry* 12, (CRB, NMC). All distributed unidentified, NMC Nos. 117206–117209, and 117211. Powell River, erect bushes, 8–10 ft. high, *J. G. Jack* 2838, (CRB).

ZOOLOGY.—*Two new species of pearly fresh-water mussels.*¹ WILLIAM B. MARSHALL, U. S. National Museum. (Communicated by PAUL BARTSCH.)

The recent pearly fresh-water mussel described herein comes from southern Paraguay and belongs in the genus *Anodontites*. The fossil species comes from the State of Monagas, Venezuela, and is the type of a new genus, *Castalioides*.

Castalioides, new genus

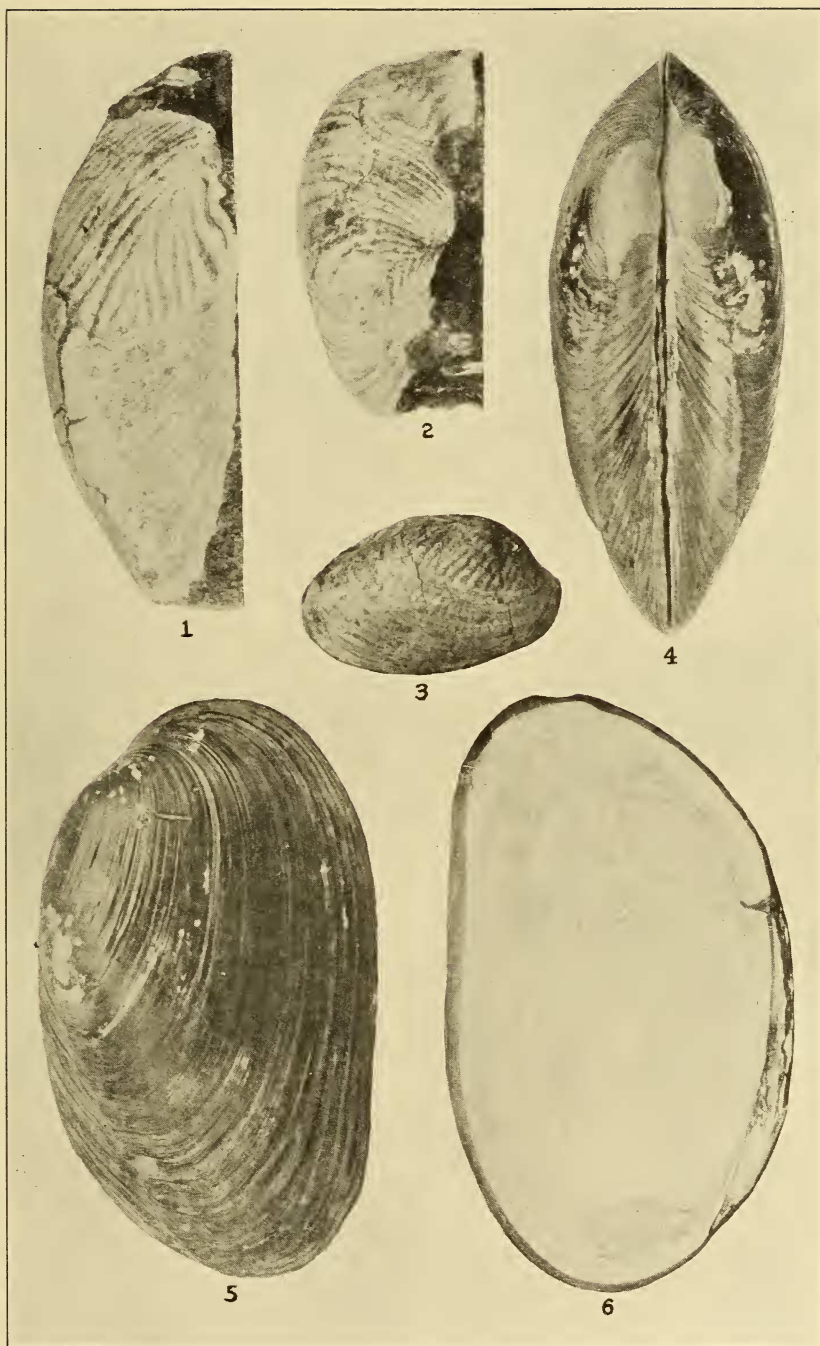
Shell with strong sculpture of radial ribs, several of the innermost pairs arranged to form very long V's. Ribs crossing the anterior and posterior slopes form a divaricate pattern with the radial ribs.

Type: *Castalioides laddi* described below.

Castalioides laddi, new species

Shell subelliptical, slightly inflated. Beaks set well forward (at about the first one-quarter of the length). Dorsal margin arcuate; anterior margin rounded and rounding into the ventral margin which is slightly arcuate and joins the posterior margin in a sharp curve. Posterior end obliquely subtruncate. Anterior ridge not differentiated from the general surface except by the divaricating sculpture along it. Posterior ridge high, subangular. Posterior dorsal area rather broad. Sculpture of strong, nearly straight, radial ribs, several of the innermost pairs joining to form very elongate V's with the apex pointing toward the ventral margin. Distant from the beaks the ribs become somewhat irregular. Several low ribs originating on the posterior

¹ Published by permission of the Secretary of the Smithsonian Institution. Received October 6, 1933.



Figures 1-6.

Figs. 1-3. *Castalioides laddi*. Fig. 1.—Posterior sculpture of type $\times 2$. Fig. 2 — Anterior sculpture of type $\times 2$. Fig. 3.—Right valve. Natural size.
 Figs. 4-6. *Anodontites schadei*, type specimen. Natural size.

ridge and divaricating there from the general radial sculpture, run across the posterior area. Similar, but smaller, more sharply defined ribs divaricate from the general sculpture near the anterior ridge and run across the anterior area. (Teeth not showing in the type, but judging from imperfect teeth showing in a right valve paratype, they resemble those of *Tetraplodon linki* Marshall.)

The type, U. S. National Museum (Cat. No. 373033) measures: Length, 40 mm.; height, 22 mm.; diameter (about 24 mm.). It and a paratype (Cat. No. 373034) were found fossil near Aragua de Maturin, capital city of the District of Piar, State of Monagas, Venezuela. This locality is on the Aragua River, a tributary of the Guarapiche River, which in turn is tributary to the San Juan whose waters drain into the Gulf of Paria, formed by the mainland of Venezuela and the Island of Trinidad. Two other paratypes were returned to the Venezuela Gulf Oil Co. from which the material was received. The geological age quoted for the specimens is Quaternary.

In general appearance the species resembles *Tetraplodon linki* Marshall² (Proc. U. S. Nat. Mus. 69: 6, plate 1, figs. 6, 7; plate 3, fig. 2. 1926), but is distinguished generically and specifically by the divaricated sculpture along the anterior and posterior ridges. The species is named for Dr. Harry S. Ladd, through whose kind efforts the material was obtained.

ANODONTITES

Four specimens of this genus, all in bad condition, retain enough of their features to show that they are related to the group including such species as *A. tortila* Lea, *A. lacteola* Lea, *A. palmeri* Marshall and *A. pittieri* Marshall, all of which are recent species from the northern coast of South America.

Anodontites schadei, new species

Shell of medium size, rather heavy, oblong; dorsal margin lightly arched; ventral margin nearly straight, sloping upward at the anterior end and fading into the sharply rounded anterior margin; posterior margin oblique, slightly arched and forming with the ventral margin a widely rounded point which points downward, giving the shell a rather oblique appearance. Beaks eroded, located well forward, making the shell appear to hunch forward. Anterior ridge rounded, the descent to the anterior margin abrupt. Posterior ridge low, rounded, the descent to the posterior and dorsal margins rather steep. A well-marked riblet traverses the posterior area from the beaks to the rear extremity of the shell. Sculpture consisting of fine concentric growth striae, with a number of major rest periods prominently marked by deep concentric grooves. Centre of shell nearly smooth, posterior area and around the margins somewhat lamellate. Color chestnut, dark greenish near the beaks, the colors darker on the front half of the shell. Interior whitish, highly iridescent in the adductor scars and in the area between the pallial line and the margins. Anterior scar deep, posterior scar well-impressed. Pallial line 15 mm. from ventral margin. Prismatic border dark greenish olive, rather wide throughout but widest along the middle of the ventral margin. Sinulus narrow and long, its tip curving backward.

The type (U.S.N.M. No. 434732) measures: Length, 90 mm.; height, 53

² Von Martens in letter to Pilsbry (Princeton University Expeditions to Patagonia, 1896-99, 3: 610. 1911) says the generic name *Tetraplodon* is a synonym of *Castalia*.

mm.; diameter, 34 mm. It and a paratype (No. 424837) come from the Tubicuary River at Aroja in southern Paraguay, and were collected by Mr. F. Schade for whom the species is named and were presented by Mr. Hugh Fulton of London. The Tubicuary River is a tributary of the Paraguay about 65 miles above its confluence with the Parana and hence is in the La Plata system.

The nearest relative of *Anodontites schadei* is *A. mansfieldi* Marshall of the Rio Yaguaron and its branches, in Cerro Largo, Uruguay. *A. mansfieldi* is lighter in weight, proportionally more elongate, has the sinulus broad and curving forward, the interior typically rosy, the posterior end well-elevated above the ventral margin, and the prismatic border much wider, approaching in character the very wide prismatic border of *Anodontites patagonica* Lam. In addition to these differences, the two species come from different drainage systems.

ZOOLOGY.—*A new genus of Trematodes belonging to the subfamily Alloecreadiinae.*¹ EDWIN LINTON, University of Pennsylvania.
(Communicated by PAUL BARTSCH.)

In the manuscript of a paper: *Some Trematodes of fishes, mainly from the Woods Hole region*, awaiting publication, a new generic name is proposed to accommodate distomes, recorded in earlier papers by the author under the name *Distomum vitellosum*. To avoid possible confusion in nomenclature it has been suggested that a brief description of the new genus be published.

Cymbephallus Linton, gen. nov.

Body smooth, moderately elongate; ventral sucker surrounded by a raised border of the body wall, which may be more or less scalloped, papillate, or slightly fimbriate; cirrus very short, appearing as a muscular sucker at the orifice of the ejaculatory duct in front of the ventral sucker, to the left of the median line. Testes smooth or lobed, median, one following the other, behind the smooth or lobed ovary. Vitellaria diffuse.

Type species, *Cymbephallus vitellosus* (Linton).

CYMBEPHALLUS VITELLOSUS (Linton).

Distomum vitellosum Linton. Bull. U. S. Fish Com. 1899: 290, 416, fig. 38, 39, and 333-340. Bull. U. S. Fish Com. 1904: 335. Proc. Nat. Mus. 33: 105.

These distomes assume a great variety of contraction shapes. Living examples are usually relatively short with breadth one-third or more of the length. When placed in fresh water or weak formalin they tend to become turgid and may elongate until the length is six or more times the breadth. Under pressure the living worm may become several times as long as broad. Neck short, conical, often reflected dorsad, especially in turgid specimens;

¹ Received October 18, 1933.